

CLAIMS:

We claim:

1 1. In an object persistence management system, a many-to-many relationship
2 manager comprising:
3 a plurality of related objects;
4 a junction table storing relationships between said related objects; and,
5 a plurality of corresponding links, each said link corresponding to one of said
6 objects, each said link persisting state information for said corresponding object in an
7 associated object table, and managing said junction table responsive to changing
8 relationships with others of said related objects.

1 2. The many-to-many relationship manager of claim 1, further comprising a
2 counter-operation management protocol performed in said corresponding links for
3 removing conflicted state information in said corresponding links without persisting said
4 conflicted state information in said junction table.

1 3. The many-to-many relationship manager of claim 2, wherein each of said
2 corresponding links comprises a state management operations buffer, said buffer
3 storing directives for adding selected key-pair entries to and removing selected key-pair
4 entries from said junction table.

1 4. The many-to-many relationship manager of claim 3, wherein said counter-
2 operation management protocol comprises an interface through which operations in

3 said buffer and corresponding counter-operations in associated buffers of related links
4 can be identified and removed, each said counter-operation specifying a junction table
5 management operation for a particular key-pair entry in said associated buffer which is
6 opposite to an operation in said buffer which specifies a junction table management
7 operation also for said particular key-pair entry.

1 5. A method of managing a many-to-many relationship in an object persistence
2 management system comprising the steps of:

3 detecting a relationship change with a related object;

4 storing a directive in a buffer, said directive specifying a management operation
5 for changing said relationship in a junction table; and,

6 performing said stored directive only if an opposite directive has not been stored
7 in a buffer associated with said related object.

1 6. The method of claim 5, wherein said storing step comprises the step of storing a
2 directive in said buffer which specifies one of adding or removing a key-pair entry in
3 said junction table.

1 7. The method of claim 6, wherein said performing step comprises the steps of:

2 performing said specified adding or removing of said key-pair entry only if a
3 corresponding opposite directive specifying a respective removing or adding of said
4 key-pair entry is not detected in said buffer of said associated object; and,

5 responsive to detecting said corresponding opposite directive, removing both
6 said directive and opposite directive from both said buffers.

1 8. A machine readable storage having stored thereon a computer program for
2 managing a many-to-many relationship in an object persistence management system,
3 the computer program comprising a routine set of instructions for causing the machine
4 to perform the steps of:

5 detecting a relationship change with related object;
6 storing a directive in a buffer, said directive specifying a management operation
7 for changing said relationship in a junction table; and,
8 performing said stored directive only if an opposite directive has not been stored
9 in a buffer associated with said related object.

1 9. The machine readable storage of claim 8, wherein said storing step comprises
2 the step of storing a directive in said buffer which specifies one of adding or removing a
3 key-pair entry in said junction table.

1 10. The machine readable storage of claim 9, wherein said performing step
2 comprises the steps of:

3 performing said specified adding or removing of said key-pair entry only if a
4 corresponding opposite directive specifying a respective removing or adding of said
5 key-pair entry is not detected in said buffer of said associated object; and,

- 6 responsive to detecting said corresponding opposite directive, removing both
- 7 said directive and opposite directive from both said buffers.

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